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# PATENT SPECIFICATION

733,010

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## COMPLETE SPECIFICATION.

### Improvements in Television Aerials and Mountings therefor.

We, WOLSEY TELEVISION LIMITED, a British Company, of 43—45 Knight's Hill, West Norwood, London, S.E. 27, formerly of 75 Gresham Road, Brixton, London, S.W.9, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to television aerials and mountings therefor, and more particularly the invention applies to television aerials of the type embodying a cross bar carrying or adapted to carry substantially parallel spaced reflector and di-pole rods.

Normally, the said two rods are carried by a cross bar fixed to a stand-off arm which at one end is mounted for rotational adjustment in a lashing bracket secured to the building or other appropriate structure. Such an arrangement imposes limitations in the setting of the aerial which in many cases renders it impossible to align the reflector and dipole rods accurately with the transmitter. Thus, for example, with the stand-off arm having a lower vertical end rotatable on its axis in a lashing bracket secured alongside a chimney stack or wall, the radius or range of adjustment of the aerial is limited by reason of the obstruction of the chimney stack, wall or the like. The object of the present invention is to obviate this disadvantage.

According to the present invention the cross bar carrying the reflector and di-pole rods of a television aerial receiver is, for the purpose of adjusting the aerial and reflector rods positionally for alignment with the transmitter angularly adjustable about a vertical axis between its ends whereby the two rods are displaceable in unison relative to an arm connecting them to the building or other appropriate supporting structure.

means connecting the cross bar to said arm including means to lock the cross bar fixedly relatively to the arm when the desired alignment has been obtained, the said arm itself being adjustable about a vertical axis for adjusting the said cross bar translatively relative to the supporting structure.

Further in accordance with the present invention a mounting for a television aerial comprises a socket shaped to fit rotatably on a stand-off arm post or the like and provided with a slot to receive a fastening member carried by the stand-off arm or the like, said socket being rotatable about a stand-off arm or the like through an angle determined by said slot and having an upper transverse limb constituted by opposed clamp members between which the cross bar carrying the aerials is clamped by clamping means.

In carrying one form of the present invention into practice the usual horizontal cross bar, to the ends of which are connected by suitable brackets or sockets the reflector and di-pole rods, is supported between its ends for rotational adjustment on one end of a stand-off arm, the other end of which is secured for rotational adjustment about a vertical axis in a lashing bracket adapted to be secured to the permanent structure, means being provided to fixedly secure the cross bar in selected relationship to the stand-off arm.

The said cross bar is preferably non-circular in cross section, and, for this purpose, conveniently can be a square section cross bar and is supported in the horizontal part of a T shaped clamp, the vertical part of which is secured for rotational adjustment upon a vertical limb portion at the free end of a stand-off arm inclined or otherwise suitably directed downwardly towards a lower end vertical limb which is

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clamped for rotational adjustment in a lashing bracket. The connection of the stand-off arm to the lashing bracket may be by the present known means, such as e.g. engaging the lower end part of the stand-off bracket in a pair of U shaped clamps or bolts passed through the ends of a bracket embodying a median part such as an angle plate adapted to be secured to the corner of a chimney stack, wall or the like by any suitable means such as the usual band, tie wire or other fastening means.

The said T shaped clamp at the upper end of the stand-off arm preferably comprises two light metal alloy castings of identical configuration with their limbs of channel section so that when they are abutted against each other both limbs of the clamp are of tubular section.

The upper limb of the clamp is of square section to accommodate the square cross section cross bar and is provided on opposite sides of the vertical axis of the clamp with apertured bosses adapted to receive clamping screws or bolts which clamp the two castings together and which bolts pass through the cross bar. The vertical limb of the assembled clamp is of hollow cylindrical form and each said casting is formed with a horizontal slot contained in about 70° of the cylindrical limb and preferably surrounded by an external web to afford an increased thickness of the clamp ambiently of the slot. A butterfly headed set screw or other suitable clamping member is passed through this slot into engagement with the circular cross section upper end of the stand-off arm.

It will be apparent from the foregoing that, in addition to being able to adjust the substantially H arrangement of cross bar and reflector and di-pole rods in unison with the stand-off arm about the fixed axis contained in the lashing bracket, it is possible by means of the present invention to adjust the H shaped assembly about a vertical axis in the range determined by the angle of the said slot relative to the stand-off arm, and thereby, despite the juxtaposition of the chimney stack, wall or the like to align the reflector and di-pole rods accurately with the transmitter.

An embodiment of the present invention is illustrated by the drawings accompanying the Provisional Specification and in which Figure 1 is a perspective view showing the invention in use, and Figure 2 is a perspective view of one of the two castings employed for making up the aforesaid T shaped clamp.

Referring to the drawings the reflector and di-pole rods 1 and 2 are carried in mountings 3 and 3a respectively at the ends of a square section cross bar 4 which is secured in the said T shaped clamp 5

mounted for rotational adjustment on the vertical limb 6a of an inclined stand-off arm 6 the vertical lower end limb 6b of which is clamped by U bolts to a lashing bracket 7 secured to the fixed structure 8. Hence the axes of the upper and lower limbs 6a and 6b afford two horizontally spaced parallel axis about which positional adjustments of the rods 1 and 2 can be effected.

The T shaped clamp 5 is composed of two identical elements one of which is shown in Figure 2 and is preferably a light metal alloy casting comprising an upper rectangular channel section limb 9 integral with an arcuate section vertical limb 10. Two members, each formed as shown in Figure 2 are clamped together by clamping members 11 (see Figure 1) passed through bossed protuberances 12 in the horizontal limb 9 of the clamp, and rotational adjustment of the cross bar 4 about the vertical axis of the limb 6a of the stand-off arm is obtained by loosening a butterfly headed set screw 13 passed through a slot 14 formed in the vertical limb of the clamp. Slots 14 are formed in both of the said castings as this simplifies assembly and use of the clamp, and it is preferred to increase the effective thickness of the material surrounding the slot to afford adequate support for the clamping screw 13, by means of an ambiently disposed web 15 moulded integral with the casting.

What we claim is:—

1. A television receiver aerial for vertically polarised waves wherein the cross bar carrying the reflector and di-pole rods of a television aerial receiver is, for the purpose of adjusting the aerial and reflector rods, positionally for alignment with the transmitter, adjustable about a vertical axis between its ends whereby the two rods are displaceable in unison relative to an arm connecting them to the building or other appropriate supporting structure, means connecting the cross bar to said arm including means to lock the cross bar fixedly relatively to the arm when the desired alignment has been obtained, the said arm itself being adjustable about a vertical axis for adjusting the said cross bar translatively relative to the supporting structure.

2. A television aerial according to Claim 1 wherein the usual horizontal cross bar, to the ends of which are connected by suitable brackets or sockets the reflector and di-pole rods, is supported between its ends for rotational adjustment on one end of a stand-off arm, the other end of which is secured for rotational adjustment about a vertical axis in a lashing bracket adapted to be secured to the permanent structure, means being provided to fixedly secure the

cross bar in selected relationship to the stand-off arm.

3. A mounting for a television aerial of the type having a horizontal cross bar at both or one end of which is carried the antenna rod or rods comprising a socket shaped to fit rotatably on a stand-off arm, post or the like, and provided with a slot to receive a fastening member carried by the stand-off arm or the like said socket being rotatable about a stand-off arm or the like through an angle determined by the length of said slot and having an upper transverse limb constituted by opposed clamp members between which the cross bar carrying the aerials is clamped by clamping means.

4. A mounting for a television aerial according to Claim 3 comprising a T shaped bracket having a vertical hollow cylindrical

limb and a hollow transverse limb shaped to mate correspondingly with the cross-section of and to clamp firmly about the cross bar, the bracket being split vertically into two opposed symmetrical T shaped parts, the vertical limb of at least one part being formed with a transverse slot receiving a set screw to engage the stand-off arm, and the transverse limb receiving across both parts thereof clamping screws or bolts.

5. A mounting for a television aerial substantially as hereinbefore described with reference to the accompanying drawings.

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#### PROVISIONAL SPECIFICATION.

#### Improvements in Television Aerials and Mountings therefor.

We, WOLSEY TELEVISION LIMITED, a British Company, of 75 Gresham Road, Brixton, London, S.W.9, do hereby declare this invention to be described in the following statement:—

This invention relates to television aerials and mountings therefor, and more particularly the invention applies to television aerials of the type embodying substantially parallel spaced reflector and di-pole rods.

Normally, the said two rods are carried by a cross bar fixed to a stand-off arm which at one end is mounted for rotational adjustment in a lashing bracket secured to the building or other appropriate structure. Such an arrangement imposes limitations in the setting of the aerial which in many cases renders it impossible to align the reflector and di-pole rods accurately with the transmitter. Thus, for example, with the stand-off arm having a lower vertical end rotatable on its axis in a lashing bracket secured alongside a chimney stack or wall, the radius or range of adjustment of the aerial is limited by reason of the obstruction of the chimney stack, wall or the like. The object of the present invention is to obviate this disadvantage.

According to the present invention, the reflector and di-pole rods of a television aerial receiver are, for the purpose of adjusting them positionally for alignment with the transmitter, adjustable in unison relative to the means connecting them to the building or other appropriate supporting structure in addition to the said connecting means being itself adjustable for adjusting

the said rods translatively relative to the supporting structure.

Further, in accordance with the present invention the reflector and di-pole rods are supported by means adjustable about an axis between the two rods remote from positional adjusting means connecting the aerial to the fixed support.

In carrying one form of the present invention into practice the usual horizontal cross bar, to the ends of which are connected by suitable brackets or sockets the reflector and di-pole rods, is supported between its ends for rotational adjustment on one end of a stand-off arm, the other end of which is secured for rotational adjustment about a vertical axis in a lashing bracket adapted to be secured to the permanent structure.

The said cross bar is preferably non-circular in cross section, and, for this purpose, conveniently can be a square section cross bar and is supported in the horizontal part of a T shaped clamp, the vertical part of which is secured for rotational adjustment upon a vertical limb portion at the free end of a stand-off arm inclined or otherwise suitably directed downwardly towards a lower end vertical limb which is clamped for rotational adjustment in a lashing bracket. The connection of the stand-off arm to the lashing bracket may be by the present known means, such as e.g. engaging the lower end part of the stand-off bracket in a pair of U shaped clamps or bolts passed through the ends of a bracket embodying a median part such as an angle plate adapted to be secured to the corner of a chimney stack, wall or the like by any suitable means

such as the usual band, tie wire or other fastening means.

The said T shaped clamp at the upper end of the stand-off arm preferably comprises two light metal alloy castings of identical configuration with their limbs of channel section so that when they are abutted against each other both limbs of the clamp are of tubular section.

The upper limb of the clamp is of square section to accommodate the square cross section cross bar and is provided opposite sides of the vertical axis of the clamp with apertured bosses adapted to receive clamping screws or bolts to engage or pass through the cross bar. The vertical limb of the assembly clamp is of hollow cylindrical form and each said casting is formed with a horizontal slot contained in about 70° of the cylindrical limb and preferably surrounded by an external web to afford an increased thickness of the clamp ambiently of the slot. A butterfly headed screw or other suitable clamping member is passed through this slot into engagement with the circular cross section upper end of the stand-off arm.

It will be apparent from the foregoing that, in addition to being able to adjust the substantially H arrangement of cross bar and reflector and di-pole rods in unison with the stand-off arm about the fixed axis contained in the lashing bracket, it is possible by means of the present invention to adjust the H shaped assembly about a vertical axis in the range determined by the angle of the said slot relative to the stand-off arm, and thereby, despite the juxtaposition of the chimney stack, wall or the like to align the reflector and di-pole rods accurately with the transmitter.

An embodiment of the present invention is illustrated by the accompanying drawings in which:—

Figure 1 is a perspective view showing the

invention in use, and Figure 2 is a perspective view of one of the two castings employed for making up the aforesaid T shaped clamp.

Referring to the drawings the reflector and di-pole rods 1 and 2 are carried in mountings 3 and 3a respectively at the ends of a square section cross bar 4 which is secured in the said T shaped clamp 5 mounted for rotational adjustment on the vertical limb 6a of a stand-off arm 6 adjustable rotatably by its lower end vertical limb 6b in a lashing bracket 7 secured to the fixed structure 8.

The T shaped clamp 5 is composed of two identical elements one of which is shown in Figure 2 and is preferably a light metal alloy casting comprising an upper rectangular channel section limb 9 integral with an arcuate section vertical limb 10. Two members such as shown in Figure 2 are clamped together by clamping members 11 (see Figure 1) passed through bossed protuberances 12 in the horizontal limb 9 of the clamp, and rotational adjustment of the cross bar 4 about the vertical axis of the limb 6a of the stand-off arm is obtained by loosening a butterfly headed screw 13 passed through a slot 14 formed in the vertical limb of the clamp. Slots 14 are formed in both of the said castings as this simplifies assembly and use of the clamp, and it is preferred to increase the effective thickness of the material surrounding the slot to afford adequate support for the clamping screw 13, by means of an ambiently disposed web 15 moulded integral with the casting.

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733.010 PROVISIONAL SPECIFICATION

1 SHEET

*This drawing is a reproduction of  
the Original on a reduced scale.*

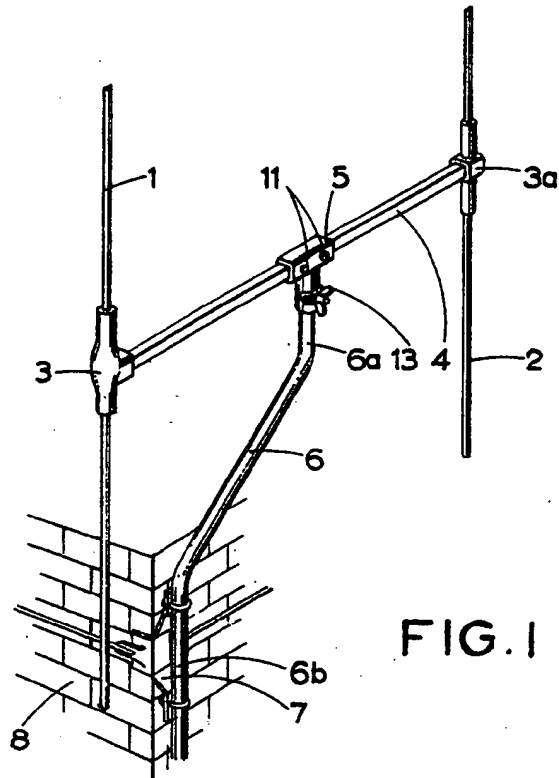


FIG. 1

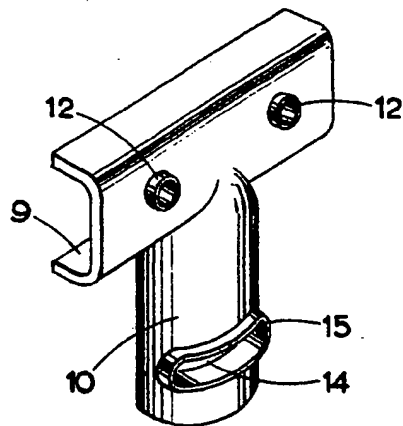


FIG. 2